HAGERMAN HATCHERY

ANNUAL REPORT

INTRODUCTION

Hagerman Hatchery is a state-owned trout production facility. The hatchery raises several strains of rainbow trout, brown trout, and various specialty species for statewide distribution. Hagerman hatchery is the Idaho Department of Fish and Game's (IDFG) largest resident trout production facility. Built in 1947, it is located approximately 30 miles west of Twin Falls on the Snake River.

The hatchery is staffed with four permanent employees, and sixteen months of temporary labor are available for use during the planting season.

The water supply includes approximately 40 cubic feet per second (cfs) from Tucker Springs and approximately 70 cfs from Riley Creek. The Tucker springs water serves the 2,520 cubic feet of rearing space in the hatchery building, 10,530 cubic feet of rearing space in fingerling ponds, and up to 118,560 cubic feet of rearing space in large production raceways. Riley Creek water supplies the 287,280 cubic feet of rearing space available in 12 raceways. The Tucker springs water is a constant 59°F year-round, and Riley Creek fluctuates from 54°F to 62°F on an annual basis.

HATCHERY PRODUCTION

Hagerman Hatchery produced 3,057,935 fish during fish year 1989. Of these, 1,032,575 were 8 to 10 inches long, and the remaining 2,025,360 were 3- to 6-inch fingerlings. All of the 8- to 10-inch fish were rainbow trout of various strains, while the 3- to 6-inch fish consisted of rainbow trout, brown trout, tiger muskies, and Kamloops trout (Table 1). In addition to the requests from the regions, 230,850 wild Kamloop trout (K2), 10,000 channel catfish (CC), and 2,975 white sturgeon were reared and planted by the hatchery crew.

Species & size	Production goal	Actual production	Percentage of goal achieved
Rainbow (R1) 8-10"	1,300,000	1,032,57	79.4%
Rainbow 3-6"	1,430,000	914,297	63.9%
K**amloop** (K1) 3-6"	550,000	586,369	106%
Browns (BN) 3-6"	304,000	308,532	101%
Tiger (TM)	3,400	3,400	100%
Totals	3,587,400	2,845,17	79.3%

A total of 6,486,158 eggs were acquired to yield the fish produced. A total of 4,725,892 eggs were purchased, and the remaining 1,760,266 eggs acquired from governmental sources at no cost (Appendix 1).

The fish produced from these eggs were fed a total of 500,325 pounds of feed acquired from the contract sources; Rangens, Inc. and Clear Springs, Inc. (Appendix 3). Both of these suppliers are located in Buhl, Idaho. The overall conversion was 1.45 pounds of feed to produce one pound of fish.

HATCHERY IMPROVEMENTS

Several capital improvements were completed this year. Contract sources installed 6-foot high fencing around the west raceways and around the west and south sides of the large raceways to help exclude ducks and other predators from these rearing areas. The IDFG Bureau of Engineering did some finish work on the upper and lower Tucker Springs, as well as some cosmetic work on the visitors restroom facilities. The hatchery crew installed all new dam boards and screens in the Tucker Springs fed raceways, as well as completely enclosing the head ditch on the Tucker Springs side of the hatchery.

Capital purchases consisted of several 12-hour belt-type feeders for the hatch house, materials for baffles for the narrow raceways, materials for a complete bird exclosure for the west raceways, and an air blower for settleable solids removal in the larger raceways. Several demand-type feeders, and an auger wagon to fill them with, were purchased for use on the Riley Creek side of the hatchery.

FISH HEALTH

The fish health personnel were called to do work at Hagerman 18 times during fish year 1989. Eleven of the epizootics were due to clinical Infectious Hematopoietic Necrosis infections, four calls were for annual inspections of fish stocks, and the other visits were to determine the cause of mortality in sturgeon and to determine the presence of EIBS in brown trout. Losses due to IHNV accounted for over 1,000,000 fish of various sizes. These losses began soon after the ducks began using the Wildlife Management Unit ponds in mid-December and continued through the planting season. Historically, the IHN outbreaks begin during this same time period. All strains of rainbow were affected to some degree by the IHN virus.

The IHN virus, and losses due to bird predation, are the main concerns at Hagerman Hatchery. Other losses were related to bacterial/environmental gill disease and other predators.

PUBLIC RELATIONS

Hagerman hatchery receives a large number of visitors and sportsmen throughout the year. The hatchery is surrounded by the Hagerman Wildlife Management Area (WMA). The WMA provides a large variety of outdoor experiences rangin[g] from fishing and hunting to family picnic uses.

Approximately 55,000 visitors toured the facility and used the surrounding public grounds this year.

This year, a free fishing day clinic was attended by approximately 200 people. The hatchery crew, regional personnel, and others helped these people learn the basics of fishing. The settling pond was mossed over and fishing was poor, so the Riley Creek head ditch was opened to fishermen 12 years old and younger for three hours. Thanks goes to all who participated in this successful event.

SPECIAL PROJECTS

Fish Tagging Operations

The hatchery crew participated in two tagging operations during the year.

Deep Creek Reservoir received 200 jaw-tagged fish in an effort to determine the return-to-the-creel of catchable rainbow trout in that reservoir.

The hatchery crew worked in conjunction with the College of Southern Idaho (CSI) to PIT tag the 2,975 sturgeon that were planted this year into the Snake river. These tags will allow biologists to gather much needed information about these fish.

Sturgeon Project

An exciting and challenging project was undertaken in conjunction with CSI. On July 11, 1988, the first successful spawning of a native Idaho sturgeon occurred at CSI. This appears to be the first time a sturgeon was held in Captivity for over a year and successfully spawned. The initial objective of this program is to increase the white sturgeon populations in the Snake River to a level which might become self-sustaining, and increase fishing opportunity For the species. Another facet of the program is to explore further development of the commercial culture of sturgeon in Idaho.

The fish were reared at CSI, Rangen's Research Hatchery, Clear Springs Research Lab, Canyon Springs Hatchery, and at Hagerman State Hatchery. As mentioned above, the sturgeon were PIT-tagged and planted in the Snake River this 'One hundred seventy-three sturgeon are being held to determine growth

rates, and 100 have received a visual implant tag. These will be held for a year to determine the practicality of this tag.

Riley Creek Water Quality Assessment

An assessment of water quality in Riley creek was undertaken by the Hagerman National Hatchery staff in conjunction with the Hagerman State Hatchery staff. This assessment was carried out during the period January 1989 to May 1989. Total and unionized ammonia, nitrates, total calcium carbonate hardness, pH, dissolved oxygen, and temperature was monitored at 2-week intervals during this period.

This work showed that these parameters did not normally exceed safe limits for trout, and the relatively poor growth of fish in the state hatchery ponds using Riley Creek water was due largely to temperature and pH changes, which occasionally resulted in high unionized ammonia levels.

APPENDICES

Appendix 1. Numbers of eyed-eggs purchased, species, and source.

Species/ strain	Number received	Date received	Source
Rainbow/ Mt. Lassen	1,360,576	3 lots/ May-Aug.	Mt. Lassen California
Rainbow/ Kamloop	1,900,790	1/17/88- 2/28/89	Skanes Washington
Rainbow/ Lost River	1,144,366	9/20/88- 5/19/89	Lost River Mackay, Id.
Rainbow/ Arlee	92,461	11/15/88	Ennis, Montana
Rainbow/ Hayspur	1,102,580	11/1/88- 12/21/88	IDFG/ Hayspur
Rainbow/ Kemmerer City	274,652	4/12/89	WDNR/ Kemmerer, Wy
Brown Trout/ Montana	136,620	11/1/88	Spring Creek, Montana
Brown Trout/ Massachusetts	320,160	12/29/88	Plymouth Rock Mass.
Tiger Muskies/	100,000	4/4/89	PennDNR/ Pennsylvania
Henrys Lake Cutthroat	53,953	6/9/89	IDFG/ Henrys Lake
TOTALS	6,486,158		

Appendix 2. Fish survival from eyed egg to plant, October 1987 to September, 1988.

Lot number	Eggs received	Size planted	Number planted	Percent survival
R4	1,360,576	3	547,508	40.2
R1 Lost River	1,144,366	2,3	716,818	62.6
R9	1,102,580	2,3	399,647	36.2
K1	2,994,910	2,3	794,120	26.5
RA	92,461	3	48,733	52.7
R1 Kemmerer City	274,652	2	148,375	54
C3	53,953	2	47,000	87.1
BN,Mt	136,620	2	70,757	51.8
BN,Ma	320,160	2	237,775	74.3
TM	100,000	2	8,020	8.0
*Total	7,580,277		3,018,75	39.8

*Note: These totals include eggs received during 1989 and fish planted fall of 1989 as fall fingerlings. The fish planted after September 30, 1989 are not included in the figures presented in the text, but are used here for survival data onlv.

Appendix 3. Fish Feed used during Fish Year 1988 at Hagerman Hatchery.

Size	Source	Pounds	Cost/ pound	Cost
Starter	Rangens	650	$0.4400	$ 286.00
#1 Crumble	Rangens	2,750	$0.4400	$1,210.00
#2 Crumble	Rangens	8,050	$0.4400	$3,542.00
#3 Crumble	Rangens	30,950	$0.4400	$13,618.00
#4 Crumble	Rangens	29,000	$0.3150	9,135.00
	Clear Springs	700	$0.2557	178.99
3/32" Pellet	Rangens	126,890	$0.2390	$30,468.72
	Clear Springs	7,000	$0.2302	1,611.40
1/8 " Pellet	Rangens	44,610	$0.2390	$10,661.79
	Clear Springs	19,000	$0.2302	$3,976.70
5/32" Pellet	Rangens	224,840	$0.2093	$47,060.48
Soft-Moist Starter	Rangens	440	$0.6816	$299.93
Soft-Moist 1/32	Rangens	1,650	$0.6911	$1,140.44
Soft-Moist 1/16	Rangens	1,210	$0.6100	$ 738.10
Soft-Moist **3/64**	Rangens	1,650	$0.5870	$ 969.10
Soft Moist 3/32	Rangens	935	$0.5670	$ 530.16
Totals		500,325		$125,426.81

HAGRMN89

Appendix 4. Costs of fish produced at Hagerman State Hatchery, FY 1988. Costs reflect all costs budgeted except capital outlay and personnel.

Species	Actual production	Costs to produce and plant
Rainbow (R1) 8-10"	1,032,575	$ 68,820
Rainbow (R1) 3-6"	914,297	$ 60,936
Kamloop (K1) 3-6"	586,369	$ 39,080
Browns (BN) 3-6"	308,532	$ 20,563
Tiger Muskies	3,400	$ 226
Totals	2,845,173	$189,625

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